PHILADELPHIA & READING RAILROAD, BRIDGE AT WEST FALLS
Pennsylvania Historic Railroad Bridges Recording Project
Spanning Schuylkill River, southeast of Roosevelt Blvd. Bridge
Philadelphia
Philadelphia County
Pennsylvania

HAER No. PA-553

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
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HAER No. PA-553

Location:	Spanning Schuylkill River, southeast of Roosevelt Blvd. Bridge, Philadelphia, Philadelphia County, Pennsylvania.
USGS Quadrangle:	Germantown, Pennsylvania (7.5-minute series).
UTM Coordinates:	18/483570/4428205
Date of Construction;	1890.
Basis for Dating:	Plaque on bridge.
Designer:	H. K. Nichols (Chief Engineer, Philadelphia & Reading Railroad).
Fabricator:	Pencoyd Bridge & Construction Co.
Builder:	Nolan & Brothers Co.
Present Owner:	CSX Transportation.
Present Use:	Railroad bridge.
Structure Types:	Stone arch, wrought-iron deck girder.
Significance:	The Philadelphia & Reading Railroad's second bridge at West Falls complements the adjacent Falls Bridge (1854) in both appearance and operation; together they form a wye to simplify train movements into downtown Philadelphia. This bridge incorporates an 80'-0"-long stone arch span, the P&R's longest at the time of its construction, and retains its original wrought-iron plate girders.
Historian:	Justin M. Spivey, April 2000.
Project Information:	The Historic American Engineering Record (HAER) conducted the Pennsylvania Historic Railroad Bridges Recording Project during 1999 and 2000, under the direction of Eric N. DeLony, Chief. The project was supported by the Consolidated Rail Corporation (Conrail) and a grant from the Pennsylvania Historical and

Museum Commission (PHMC). Justin M. Spivey, HAER engineer, researched and wrote the final reports. Preston M. Thayer, historian, Fredericksburg, Virginia, conducted preliminary research under contract. Jet Lowe, HAER photographer, and Joseph E. B. Elliott, contract photographer, Sellersville, Pennsylvania, produced large-format photographs.

Description and History

In 1889, Philadelphia & Reading Railroad (P&R) Chief Engineer H. K. Nichols decided to solve a long-standing operational problem. To reach the P&R's Girard Avenue station, trains heading westward on the main line crossed the Schuylkill River on the 1854 Falls Bridge, entered the West Falls yard, then ran backward down the City Branch on the west bank of the river.[1] The solution required a new bridge across the Schuylkill, effectively forming a wye with the City Branch. Because the bridge would span river-front drives owned by the Fairmount Park Commission, the P&R negotiated a land swap in late 1888 to gain the necessary right-of-way.[2] Park commissioners imposed additional conditions on the railroad in 1889, which included submitting plans to the park's Chief Engineer for approval, building a stone arch span over East River Drive, and installing sound-dampening materials on the span over West River Drive. The P&R also agreed to connect the new east arch to the existing east arch of the Falls Bridge at the park commissioners' request, but that request was never made.[3]

The stone arch over East River Drive required an 80'-0" span, which was the P&R's longest at the time of its construction. The arch and river piers contain Conshohocken stone, with trap rock sheathing on the arch. Following a 6-degree curve, the two tracks proceed across the river over six plate-girder spans each 87'-0" long, followed by a 60'-0" plate girder, and finally, a 92'-10" plate girder span over West Falls Drive. (An earlier proposal contained ten spans ranging from sixty to eighty-six feet, all plate girders.[4]) Although early drawings of the stone arch show beveled panels standing out from the pier and spandrel walls, these were thankfully eliminated in construction, giving the span a similar appearance to the adjacent Falls Bridge.[5] Pencoyd Bridge & Construction Co. fabricated the wrought-iron girders, which are 7'-6" deep. Contractors Nolan & Brothers completed the bridge in nine months, from May 1889 to February 1890, at a total cost of $175,000.[6]

Notes

1. See U.S. Department of the Interior, addendum to HAER No. PA-39, "Falls Bridge," 2000, Prints and Photographs Division, Library of Congress, Washington, D.C.

2. Fairmount Park Commission, *Meeting Minutes*, 7:228 (27 Dec. 1888), transcript in file: Railroads in Park - General, Fairmount Park Commission Archives, Philadelphia, Pa. [hereinafter cited as FPC transcripts].

3. Fairmount Park Commission, *Meeting Minutes*, 8:273-5 (1 Jun. 1889), FPC transcripts.

4. Philadelphia & Reading Railroad, "Proposed Bridge at West Falls," drawing dated 27 May 1889, milepost 5.40, region/division/branch 100341, aperture card files, Consolidated Rail Corporation, Philadelphia, Pa. [transferred to Norfolk Southern Railway Co., Atlanta, Ga.; hereinafter cited as Conrail aperture cards].

5. Philadelphia & Reading Railroad, "Sketch of Stone Arch over East Park Drive, Proposed Bridge at West Falls," drawing dated 7 Jun. 1889, Conrail aperture cards.

6. Riegner, W. B., "The New Falls of Schuylkill Bridge of the Philadelphia & Reading R. R. Co.," *Proceedings of the Engineers' Club of Philadelphia* 11, No. 48 (Jan.-Mar. 1894): 69-74.

Additional Source

1. "Stone Arch at Falls of the Schuylkill," *Engineering News* 25, No. 4 (24 Jan. 1891): 89.